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FOR YOUR **information**

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## Phasing Out Halons to Protect the Ozone Layer

### HALONS

Halons can be 10 times more damaging to the ozone layer than a similar amount of chlorofluorocarbons (CFCs). For example, the ozone-depleting potential of halons compared to a common chlorofluorocarbon (CFC-11) is:

Halon-1211: 3 times CFC-11

Halon-2402: 6 times CFC-11

Halon-1301: 10 times CFC-11

Halons are used in fire-extinguishing equipment and fire and explosion suppression applications. They are released into the atmosphere during fire-fighting, fire-fighting training, testing or equipment servicing and by accidental discharges.

Halons were never produced in Canada, but they are widely used here. It is estimated that about 140,000 fire extinguishers and systems containing halons are in service in Ontario alone.

### OZONE-DEPLETING SUBSTANCES

Fluorocarbons are a family of long-lasting synthetic chemicals that contain carbon and fluorine and in many cases, chlorine. They include chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs). They were developed about 60 years ago as a substitute for ammonia in refrigerators. Related to CFCs, halons are a group of chemicals that contain bromine.

Once released from the products and processes in which they are used, these chemicals rise into the

upper atmosphere and damage the ozone layer which acts as a shield protecting the earth against ultraviolet radiation. Ultraviolet radiation can cause serious health and environmental effects such as skin cancer and vegetation damage.

International concern about the depletion of the ozone layer has led to an agreement, called the Montreal Protocol for Substances that Deplete the Ozone Layer, which was originally signed by 60 countries and came into force in July 1989. The Protocol has been amended twice, most recently in Copenhagen in 1992, to accelerate the phasing out of ozone-depleting substances (ODS), including halons.

Canada signed the Copenhagen Agreement which bans the production and import of CFCs in 1996 and the import of halons in 1994.

Ontario was the first province in Canada to pass regulations which supported the intent of the Montreal Protocol. These regulations included controls on CFCs in aerosols, and the phasing out of CFC foaming agents to make rigid or flexible foam. More recent regulations control CFCs and HCFCs used in refrigeration.

The halon regulation, together with previous measures, will control about 95 per cent of the sources of ozone-depleting fluorocarbons in Ontario.

### HALON REGULATION

Ontario's goal is to minimize the release of ODS including halons. Under the regulation, the release of halons, except to fight fires, is prohibited in Ontario. This will allow time to develop safe substitutes for halons.



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The regulation does not require homeowners to dispose of or hand over their portable fire extinguishers. Homeowners should maintain them in accordance with manufacturers' instructions and contact Underwriters' Laboratories of Canada (ULC) for information on servicing or disposal.

The regulation will be phased in according to the following timetable:

*Effective immediately:*

- prohibits the addition of Halon-2402 to existing equipment;
- requires the use of certified halon companies to service halon equipment and to store or recycle halons;
- requires that certified companies meet ULC standards;
- requires that large extinguishers or systems (greater than three kilograms) must be certified empty before being disposed of;
- exempts small extinguishers (less than three kilograms) from disposal requirements.

*Starting 1995:*

- prohibits filling equipment that was manufactured after 1994 with halons;
- prohibits the sale of new halon fire-extinguishing systems;

*Starting 1996:*

- prohibits the sale of new portable halon extinguishers;
- prohibits the refill of existing portable extinguishers smaller than three kilograms with halons;

*Starting 1997:*

- prohibits the addition of most HCFCs and HBFCs (hydrobromofluorocarbons) to fire-extinguishing equipment (use of some HCFCs with very low ozone-depleting potentials will be permitted).

Controlled use of halons to fight fires is permitted. However, discharging halon equipment for the purpose of training fire-fighters is not allowed. Existing extinguishers and systems can continue to be used by industry and householders, but small fire extinguishers cannot be recharged after 1995. The Ontario Fire Marshal's Office was consulted throughout the development of the regulation.

Only companies certified by ULC will be allowed to service halon fire-extinguishing equipment, recondition or store halons. Standards have been developed to minimize the loss of halons to the environment.

## FOR MORE INFORMATION

If you require information on the servicing, dismantling or removal of halon equipment, or need information on the supply, storage or reconditioning of halons, contact ULC at 1-800-463-8244. ULC is a non-profit standards organization, under the Standards Council of Canada, that will give you the names of approved companies.

Copies of the regulation can be obtained at the Ministry of Environment and Energy's Public Information Centre, 135 St. Clair Ave. W., Toronto, Ont., M4V 1P5, tel: (416) 323-4321 or call toll free 1-800-565-4923.